

WHAT IS CLAIMED IS:

1. A method of monitoring a power distribution system, said method comprising increasing a sampling rate for sampling analog monitoring signals from monitoring of said power distribution system until said sampling rate is high enough to capture high-speed transients.
2. The method of claim 1, further comprising monitoring both current and voltage parameters within lines of said power distribution system to generate said analog monitoring signals.
3. The method of claim 1, further comprising:
storing sampled data from said monitoring signals in a memory unit; and
analyzing said stored data with a processor.
4. The method of claim 3, further comprising displaying sampled data, including detected high-speed transients, or data derived from said sampled data on a monitor.
5. The method of claim 3, further comprising interrupting a flow of power on said power distribution system if analysis of said stored data indicates a danger according to pre-defined parameters.
6. The method of claim 1, wherein said increasing said sampling rate further comprises increasing said sampling rate in response to user input from a user input device.
7. The method of claim 1, wherein said increasing said sampling rate further comprises automatically increasing said sampling rate as part of a monitoring routine for said power distribution system.